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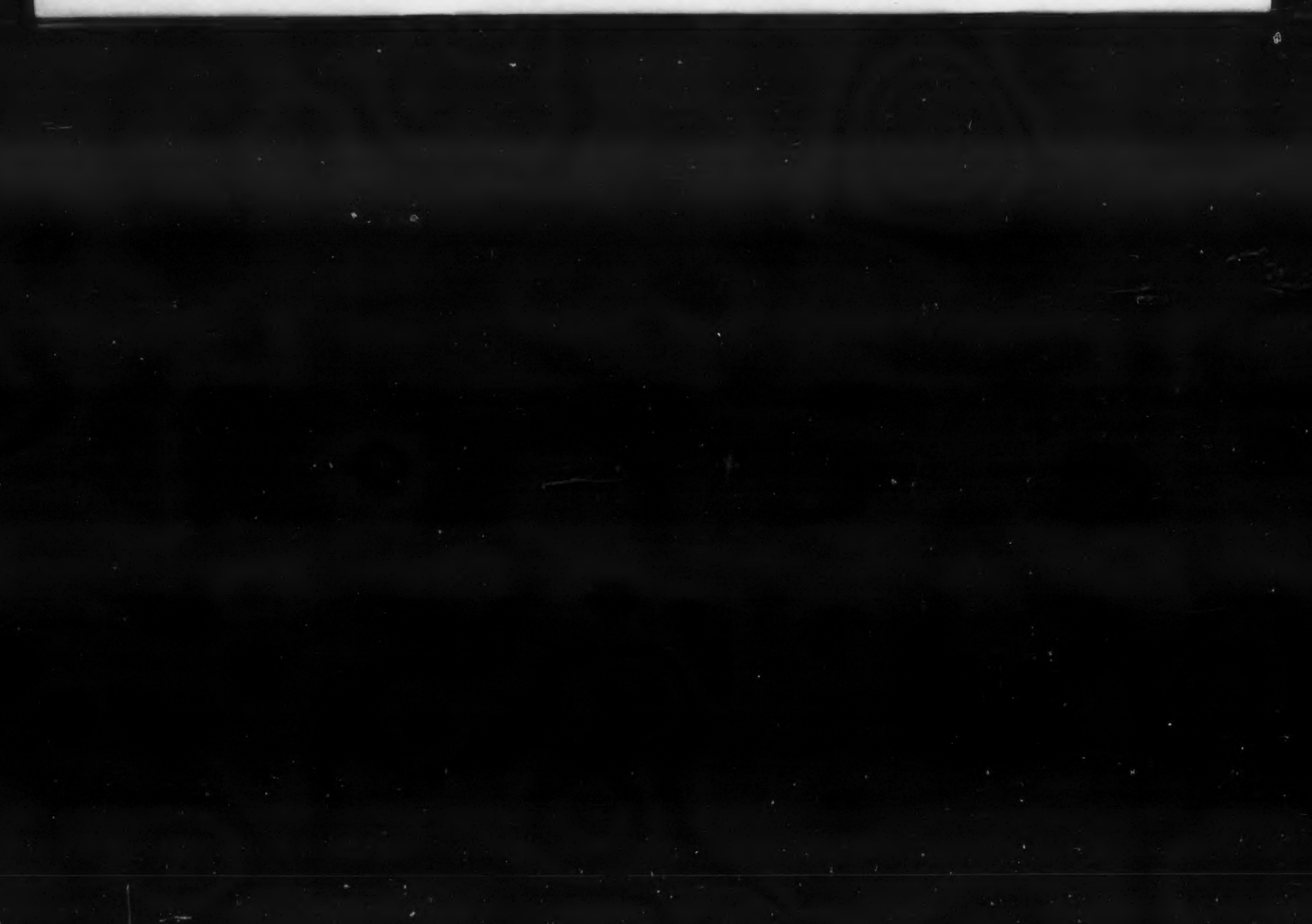

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MEDICAL CARE FOR CITIZENS RECEIVING RELIEF FUNDS

As noted in the last number of the *Bulletin*, a committee representing the Winnipeg Medical Society and the Manitoba Medical Association interviewed all the different governments and placed before them the outline of a scheme for medical care to citizens on relief. Negotiations are being continued, but no further reports have been received from the authorities. They have not accepted the suggested scheme nor rejected it. Neither have they put forward any alternate proposals. But the committee is keeping in touch with the situation.

Progress in Cardiology

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IT is not so very long ago that methods of diagnosis consisted of listening to a patient's complaints, looking at his tongue, feeling his pulse, and perhaps inspecting his urine. Over the course of many years new methods have forced their way into the field, each in turn meeting with opposition but eventually reaching their settled place in the schema of the science and art of medicine. In the enthusiasm following each new discovery in medicine, clinicians like preachers, have a tendency to rush to extremes. In the hurly burly of excitement the words of the master are apt to be forgotten.

In 1785 Withering introduced digitalis in the treatment of oedema. He enunciated clear rules for its use, which were completely ignored for a century. Even today his directions for use may well be revived. "Let the medicine be given in the doses advised. Let it be continued until it either acts on the kidneys, the stomach, the pulse, or the bowels. Let it be stopped upon the first appearance of any one of these effects." In our unwarranted

Read before the Winnipeg Medical Society, January, 1933.

fear of digitalis intoxication, many of us today use this invaluable drug with dangerous timidity.

Laennec, the discoverer of mediate auscultation, spoke of the condition of the myocardium as the key to cardiac pathology. William Stokes in 1834 said that no matter what the heart affection might be, "Its symptoms mainly depend upon the strength or the weakness, the irritability or the paralysis, the anatomic health or disease of the cardiac muscle." The masters' words were forgotten for decades by the men on the firing line of medicine. With their new toy, the stethoscope, they concerned themselves chiefly with heart murmurs. *These* were easy to recognize, easy to teach upon and a tremendous and unwonted energy was bestowed upon tracing their origin and transmission from a purely mechanical and acoustic point of view.

With the renewed attention to symptoms and function engendered by the genius of McKenzie, the stethoscope became the clinician's slave and not his master. Of it McKenzie says, "the introduction of the stethoscope has not only hampered the progress of heart affections for a hundred years, but has done more harm than good." These are strong words, but Lewis believes that a murmur and especially a systolic murmur is merely a useful reminder to search with special care for the real evidences of heart disease.

Instruments, and diagnostic appliances are apt to become fetishes. In our worship and awe we are apt to forget that they merely extend the usefulness of those five senses which have stood us such good stead in the progress of medicine.

For example, the electrocardiograph now so widely used in medicine has many limitations and some advantages. Some of these are stressed by F. N. Wilson.

In the differentiation of the various types of cardiac arrhythmias, the electrocardiograph is pre-eminent. Those accustomed to use the instrument find it relatively easy to distinguish most of these disorders without its use. Very few, however, master this field of diagnosis without frequent comparison of clinical signs and graphic records. The recognition of auricular flutter, some forms of heart block, and the differentiation of auricular fibrillation from multiple extrasystoles is often difficult, if not impossible, without an electro cardiogram.

In the detection of myocardial disease, this instrument is of most value in those cases where signs are few in number. A distinctly abnormal record here may avoid future disaster.

During an attack of acute rheumatic fever, the electrocardiogram may show evidence of myocardial damage, and draw attention to cardiac involvement and the necessity for long convalescence. It is of great value as an aid in the diagnosis of cardiac infarction where serial records are often necessary, since the changes found are either transitory or progressive. As a control in digitalis therapy, it has been found useful. It occasionally helps in the diagnosis of valvular and congenital heart disease, but if the record is negative organic heart disease cannot be excluded. It must be used as an aid to the clinical senses.

Possibly one of the most useful advances in recent years has been the almost universal acceptance of a standard method of nomenclature of heart disease. The advantage of this has been to focus attention upon function and the etiological factors in heart disease. Etiology and function now dominate the field of clinical cardiology. We may no longer cover up a multitude of lesions with the meaningless diagnosis of chronic myocarditis.

Naming a valvular defect no longer constitutes a true diagnosis. The lesions of syphilis which cause aortic reflux by widening of the commissures, are totally different from the valvulitis of rheumatic carditis which produces regurgitation with the healing process. Treatment in each case is as fundamentally different as the treatment of two different types of ulceration of the intestine, *namely*, typhoid fever and tuberculosis.

The new classification, therefore, defines the cardiac affection under three definite headings, all three of which must be included in a diagnosis, Aetiological, Anatomical, Physiological. Of the three, the etiological is the most important and includes such headings as:—

Rheumatic Heart Disease
Bacterial Heart Disease
Cardiovascular Syphilis
Arteriosclerotic Heart Disease
Hypertensive Heart Disease, and others.

The anatomic group names the site and nature of the lesion, for example, aortitis, coronary sclerosis. The physiological group includes among others, the disorders of the heart beat.

One of the aetiological factors which has received intensive study of late, is cardiovascular syphilis. Of unfortunate interest is its tendency to bring sudden voiceless and unexpected death upon its victim. It is not pleasant to learn that of 8,500 cases of sudden death, described by Martland, including accidents, falls, suicides, and highway accidents, 1,590 or 18% were due to heart disease. 300 of these cardiovascular cases were autopsied. Rheumatic heart disease accounted for 60 cases, arteriosclerotic heart disease for 139, and cardiovascular syphilis accounted for the amazing total of 101 cases, or 33%; 75% of these syphilitic deaths occurred in men under 50 years of age. Here is a sword which strikes at a man in his prime. He is probably prominent in the business world and supports a family, his indiscretion forgotten in the mist of the past.

The sudden death is due here, to any one of three major complications of aortic syphilis, *aortic regurgitation, occlusion of the mouths of the coronary arteries*, or *ruptured aneurysm*. The time for indifference or apathy on our part with respect to aortic syphilis is past. The average duration of life in those cases spared a sudden exit is 18 months from the onset of symptoms, *if untreated*. It attacks men at the most vigorous and useful stage of their existence. *The time is rapidly coming when failure to treat cardiovascular syphilis in a thorough and adequate manner, will be as reprehensive as failure to treat tuberculosis is today.* There is little room for time worn pessimism in the results published by Moore and Danglade, which are being rapidly confirmed in many parts of the world.

They have studied 53 cases of aneurysm and 112 of syphilitic regurgitation.

Results.

Aneurysm untreated - - - 90% dead
Average duration of life from onset of symptoms up to period of death - 19 months.

Aneurysm treated - - - 60% still alive
Average duration of life of those who died - 75 months.

Aneurysm is a late complication. Consider aortic regurgitation which occurs earlier in the disease.

No treatment - - - - 91% are dead
Well treated - - - - 84% are living

21 of the treated survivors are symptom free and able to work.

In our own clinics we have a number of cases which have been adequately treated for periods ranging from one to five years. In this group there has been one death. These cases have received almost continuous treatment, and many are at present symptom free and some are able to work.

Early diagnosis is essential. Unfortunately diagnosis is often accidental until one or other of the complications develop, such as coronary stenosis, aortic reflux, or aneurysm. Without one of these the aortitis may be silent and can only be recognized if an X-ray plate is taken.

However, 75% of cases of aortitis develop myocardial ischæmia due to coronary stenosis early in the disease, and then we have a group of valuable signs and symptoms.

Positive Wass. — 20% late luetics have a negative W.R.
Nocturnal Dyspnoea — peculiar type } paroxysmal
Nocturnal Substernal Pain }
Angina Pectoris
Progressive Heart Failure in a middle-aged male, with no evidence of rheumatism or arteriosclerosis
Increased retro manubrial dullness
An amphoric drum-like second sound at the aortic area
An aortic systolic murmur
X-ray evidence of a diffusely dilated aorta with a normal sized heart.

Many of these symptoms may also occur with Arteriosclerosis, but when they arise in an individual under 50, syphilis is the most likely cause.

Coronary disease is the captain of the men of Death in heart disease. The syndrome of angina pectoris is often associated with disease of the coronary arteries. Many theories have been advanced to explain the cause of the pain in this condition. It is now generally explained on physiologic rather than anatomic grounds, as due to inadequate blood supply to the heart muscle. Physical and emotional exercise make direct demands on the heart energy. If the coronary arteries are diseased the demand for increased blood flow exceeds the supply. If the diastolic pressure is low, as in aortic regurgitation, sufficient blood does not reach the coronary arteries. Similarly the angina of severe anæmia may be due to inadequate blood supply. Whether the pain is due to anoxemia (Lewis thinks not) or accumulation of lactic acid and other metabolites in the heart muscle, or both, has not yet been determined. The fact remains that deficient blood supply plus work, causes pain in any muscle. The symptomatology of coronary occlusion affords powerful evidence for the theory that anginal pain is caused by this muscular ischæmia, which by the way closely resembles the pain seen in intermittent claudication.

The work of Gross in delicately tracing out the details of the blood supply to the heart is classical. You will remember that he drew the conclusion from the extensive collateral circulation developed in older patients, that the prognosis in coronary occlusion would be better than in young individuals. This has been refuted by Austrian and many others. In Austrian's series 66% below the age of 50 recovered, and only 39% of those older than that survived.

Is Angina Increasing?

The reported mortality in coronary disease varies greatly. The question is difficult to answer, but the following statistics from Ontario are disquieting.

DEATH RATE IN ONTARIO

Total Heart Disease	Rate per 100,000
1901	70.9
1910	89.9
1920	123.5
1930	161.5

Angina Pectoris Including Infarction	No.	Rate per 100,000
1901	58	2.65
1910	67	2.65
1920	187	6.46
1930	713	21.08

Such a sudden and alarming rise in deaths from angina in the short space of ten years can scarcely be due entirely to better methods of diagnosis. The strain of modern life is beginning to tell.

55 to 60% of cases of coronary thrombosis die within a month or two.

100 cases of angina pectoris followed for five years will show a 30% mortality.

Of 287 cases of angina followed by Conner, 25 were living at the end of five years.

In angina the prognosis is worse with high blood pressure, arteriosclerosis, serious electrocardiograph changes and great cardiac enlargement. It is important to remember that from 20 to 40% of cases of *coronary thrombosis coming to autopsy had absolutely no pain.* Profound and prolonged dyspnoea was a frequent presenting symptom in many of these cases.

In the differential diagnosis between angina pectoris and coronary thrombosis Parkinson and Bedfords' table is of clinical value.

	ANGINA PECTORIS	CARDIAC INFARCTION
Onset	During Exertion	Often During Rest or Sleep
Site of Pain	Sternum often Mid. Sternum	Sternum Often Lower Third
Attitude	Immobile	Often Restless
Duration	Minutes	Hours
Shock	None	Present
Dyspnoea	Absent	Often Present
Vomiting	Rare	Common
Pulse	Unchanged	Small, Rapid
Temperature	No Fever	Fever Follows
Blood Pressure	Normal or Rise	Fall
Heart Sounds	Normal	Distant, Gallop, Rhythm, Friction, Rub
Cong. Heart Failure	Absent	Often Follows
Electrocardiograph	Often Normal	Usually Diagnostic

An accurate knowledge of the normal coronary circulation and the variations in the blood supply of the posterior surface of the left ventricle, the posterior part of the interventricular septum and apex are necessary in the study of infarction. The branches of the right coronary artery in the right ventricle spread out under the surface of the pericardium in straight lines. In the left ventricle branches of both right and left arteries arise at right angles to the main trunks and penetrate straight through the thick myocardium. On account of this angulation and perpendicular type of branching, infarction is ten times as common in the left ventricle as in the right. Branches of both arteries supply the left ventricle.

Infarction of the anterior surface of the left ventricle supplied by the left coronary artery (this is the type in which we may get a friction rub) is frequently associated with changes in the electrocardiogram in leads 1 and 2.

If the right coronary artery is occluded there is infarction of the posterior surface of the left ventricle and neighboring intraventricular septum. (This is the type in which conduction defects are common. Heart block, etc.). Here the changes in the T waves are in leads 2 and 3.

It is well to remember here that there is fundamentally no difference in significance between the data obtained by the electrocardiogram and data obtained by the stethoscope or any other method of examination. It must be interpreted in the light of *all* the information obtained about the case.

The common causes of death in the coronary artery occlusion if the patient survives the first shock are — Ventricular fibrillation if the death occurs within the first week or so. After ten days the death may be due to a ruptured, softened, infarct. Later on, death is usually due to progressive heart failure. The tendency to ventricular fibrillation has suggested to Levine the routine administration of quinidine for the first two weeks following a coronary occlusion. This will help to prevent not only ventricular tachycardia and fibrillation of the ventricle but auricular fibrillation as well.

During the acute attack the profound shock must be combatted with morphine, ½ grains being repeated as often as necessary. The earlier the pain is relieved the less the shock. At this stage, intravenous injections of 50 c.c. of a buffered solution of 50% glucose are of great value.

Six weeks in bed is the minimum period of rest following an acute infarction of the heart.

The dangers of nitroglycerin in advanced coronary sclerosis have recently been pointed out. The marked fall of blood pressure following its use, gives rise to ideal conditions for thrombosis. We are, therefore, advised to withhold the nitrites in patients having very frequent attacks of angina pectoris and particularly during an attack of actual occlusion.

I think we are now seeing many more cases of angina pectoris in Out Patient practice than formerly. With thousands of working people on relief these cases tend to live longer. They have plenty of time to rest. As times improve and they are forced to go back to hard labour to support their families, many of them will die. It is this necessitous hard work with its consequent ill effects on the diseased heart which makes angina pectoris seem to be a common affliction of the well-to-do. Thus, in present day Out Patient practice, the first essential in the treatment of angina, rest, is easily brought about.

The etiological factor must not be lost sight of, however. If the pain is due to syphilitic stenosis of the coronary openings it will often disappear with specific treatment cautiously applied. If due to anæmia the remedy is obvious. If it occurs during the treatment of myxœdema, thyroid administration must be cautious. If due to insulin hypoglycæmia, dosage must be reduced. If the gall bladder is diseased, removal *may* cure the anginal attacks. It is with actual coronary sclerosis that we meet with more serious difficulties but we have found two drugs of considerable value in reducing the frequency of attacks, of not only the angina of effort, but the nocturnal variety and also attacks of cardiac asthma. These are both drugs of the Xantho purine group which have a prolonged vaso dilating action on the coronary vessels, provided any elasticity remains. They are: Caffeine sod. benzoate and euphyllin (or theophylline ethylene-diamin).

German authorities have been using extracts of heart muscle with apparent success. It has now been found that it is the purine base of ordinary extractives of meat which is the active principle of these so-called heart hormones. X-ray treatment of the cervical sympathetic chain is enthusiastically recommended by French clinicians.

In these days when pulmotors are being rushed about injuring people's lungs, the subject of oxygen therapy is of vital interest. In an emergency

we find that imposing looking oxygen tank, a blessing in disguise. It is well to examine its indications and the physiological principles underlying its application. Anoxemia means lack of free oxygen in the blood plasma. This free oxygen varies with its partial pressure; in other words, if the cells in the tissues are receiving oxygen at abnormally low pressure, anoxemia results. The anoxemia of mountain sickness is a classic example. The healthy person is able to compensate in time for this low oxygen pressure of the air and becomes acclimatized. Send a case of Graves disease to the mountains and she will be completely incapacitated. The demand exceeds the supply.

The degree of anoxemia may not parallel the cyanosis, especially in surgical shock, in anæmia and in coronary thrombosis. Here there may be an ashen, steely gray colour instead of cyanosis, due to depletion of peripheral circulation. As a guide to oxygen therapy, it is well to remember that —

> Cyanosis of the fingernails, which can just be detected is about 10% oxygen desaturation.
>
> Definite cyanosis, 15% desat. With marked cyanosis there is more than 20% oxygen desaturation.

Oxygen therapy is of little value in cardiac disease as the cyanosis here is due to venous stagnation, the oxygen saturation being about normal. Cyanosis may be marked, with but little bad effect, as we see in congenital heart cases. As chronic cardiac cases are acclimatized to cyanosis, it may be very unwise to upset the balance, unless we are prepared to supply oxygen continuouly. In cases of sudden onset of cyanosis, however, as in coronary occlusion, oxygen is valuable. It must be continued until the danger point is over. It tides them over the critical period. Withdrawal of oxygen must be gradual to allow the compensatory mechanism to develop.

In angina pectoris there is no cyanosis and only a localized anoxemia. The indications are not clear. A man in an attack of severe pain is not in the mood for masks and tents. Carbon Dioxide and oxygen is preferable here, if it can be tolerated. Oxygen as a *prophylactic* against anginal attacks is advocated by Henderson in two case histories. Its effect is doubtful. A mask or tent is not as efficient as the oxygen chamber in which his patients were placed.

The two great dangers of oxygen therapy are fire and explosions. The slightest trace of oil about the outlet valve may lead to tremendous explosions.

We are often asked, what is the operative risk in a patient with heart disease. Such a question will bring to mind the valuable work of Butler and Levine.

In 494 operative cases afflicted with cardiac lesions there were 28 deaths, or 6.3% mortality. Where hypertension was present the risk was negligible. Rheumatic heart disease and auricular fibrillation showed a low mortality. With angina pectoris most of the deaths were due to post operative coronary occlusion — the rate 8%. The major accidents occurred in cases of recent congestive heart failure — 10% and following a coronary occlusion — 45%. If the patient was operated upon shortly after an attack of infarction, the mortality was 45%. If during an attack, it was 90%. In these cases the question of operation merits very serious thought and apart from emergencies may more safely be postponed.

In the assessment of the risk of operation, we find a new test for latent otherwise unrecognizable heart failure which may be of value. This is the Kaufman Duiresis test which originated in Germany. It is based on the researches of Volhard and Eppinger. Latent oedema due to myocardial failure is difficult to demonstrate. As much as six litres of water may be

retained in the tissues before there is any visible oedema. In the K.D. Test the legs are raised so that in persons with latent oedema a definite diuresis occurs. The diminishing function of the heart is recognized by increased output of urine.

Technique.

The fasting patient empties his bladder. He is given 150 c.c. of water every hour from 7 to 12 o'clock. The urine is examined every hour for quantity and specific gravity. A similar test is run the following day with the foot of the bed raised 25 c.m. If there is latent oedema there will be marked diuresis during the period of the raised position. Oedema, other than cardiac must, of course, be ruled out first, since the risk is considerable of congestive failure developing post operatively in susceptible individuals. This test would seem to be of some value. Whatever the value of this test, it is obviously important to inquire carefully about anginal seizures, substernal pain or cardiac asthma, in patients over 40 years of age. Operation should be postponed for three months if there is a history of recent coronary infarction.

It is, however, the differentiation of coronary thrombosis from acute abdominal catastrophies that will cause the surgeon most anxiety, especially when the pain is abdominal in origin.

Shock, cardiac arrythmia, gallop rhythm, acute dyspnoea and a rapid drop in blood pressure, may assist in drawing attention to the heart. The electrocardiograph should be of real value here as the characteristic changes may appear as early as two hours after infarction.

What is cardiac asthma? There are really two types of this condition. First, the type caused by an acute oedema of the lungs, which is really the most advanced variety producing sudden paroxysmas of forced breathing of great intensity and associated with frothy blood stained sputum and fine rales throughout the chest. This is the type often seen in advanced coronary sclerosis. The other type is very similar, but there is no acute oedema of the lungs.

Pratt has described the nocturnal attacks in striking fashion. "A man past middle age, has had some shortness of breath or slight pain on exertion for a little time. He goes to bed feeling quite well. He is awakened after an hour or two of sound sleep by a feeling of imminent suffocation. He may remain in bed or spring up panting for breath and rush for the window. He will be pale, in a cold perspiration and have laboured breathing. The attack may be over in a minute or may persist for an hour. If the attack persists pulmonary oedema may occur."

Allbutt also gives a very graphic account. "The patient seized and throttled before he could cry out, sprang up livid to wrestle with death. The desperate conflict made the fell enemy almost visible to us. Now this way, now that, springing up in bed to fight from the edge of it. To sink back in utter exhaustion but only to rise again panting with the sweat streaming from him desperately to renew the battle. The scene was almost as distressing to the physician as to the victim." The specific and dramatic action of morphine in cardiac asthma, morphine and atropine in acute pulmonary oedema, was not known to Allbutt at that time.

What is the explanation of these weird attacks? Wasserman states that they occur when there is anoxemia of the respiratory centre. During the day the deficiency is compensated by an increased ventilation through the lungs. This is not noticed by the patient except as a dyspnoea on exertion.

The first attack usually occurs after the patient has felt so well that he has had a more strenuous day than usual.

He goes to bed and falls into a deep sleep. The left ventricle has been overtaxed. Sleep depresses the respiratory centre so that the usual stimulus pore increased ventilation, passes unnoticed. The anoxemia at the centre progresses to an advanced degree before the patient is suddenly awakened with a feeling of suffocation. The patient attempts consciously to hyperventilate his lungs. In time, the excess carbon dioxide is thrown off and a return to normal results.

The Cheyne Stokes Symptom Complex.

This symptom complex used to be known exclusively as a terminal sign. Wasserman's work has shown that this syndrome may occur frequently in slighter cases of cardiac decompensation, particularly of the left ventricle.

Observation of the symptom is not necessary for diagnosis. If it occurs in the day-time, it may cause only slight dyspnoea on exertion, which is usually attributed to simple congestive dyspnoea. At night the periodic respiration is more definite, apnoea long, hyperpnoea deeper. When the hyperpnoea sets in the patient is roused from his sleep, takes a few dyspnoeic breaths and frequently falls asleep during the succeeding apnœic phase. In severe cases this succession continues throughout the night. In slighter cases the patient may find it difficult to get to sleep and wakes repeatedly during the first hours, then sleeps ununterruptedly. The patient's dread of the coming torture of interrupted sleep from air hunger may be very acute. Every sleepless subject of heart disease should be carefully studied from this angle as the complex is a valuable sign of impending left ventricular heart failure.

A Report of a Case of Ayerza's Disease

Presented at Ward Rounds in the Winnipeg General Hospital

THE most obvious thing about this man (Nicholas B) is his cyanosis; a cyanosis which is peculiar in that it is more marked when the patient is lying down than in any other position. Dyspnœa is not a symptom, as you will notice. Please mark the extreme distension of the veins of the neck and arms.

N. B. tells us that the disability for which he entered the hospital began within the last three weeks. When we go further into the matter we find that he first came to the out-patient department in 1930. On that occasion the onset was similar to this. He suffered respiratory distress which was increased by exertion; according to his statement he had never had this symptom before. He was cyanosed, and he had an emphysematous chest. An X-ray showed heart and great blood vessels normal, and was very suggestive of tuberculous infection. He was sent into a sanatorium, which reported that the sputum was negative, there was no evidence of tuberculosis, but the left auricle was enlarged. In December of 1931 Dr. Burridge stated that there was no cardiac disease. At this time the roentgenologist reported dilatation of the pulmonary artery, probably due to stenosis.

He is 36 years of age and has done the heaviest kind of manual labour for sixteen years. He also tells us that he had a cold in 1926, but none since.

Three weeks ago he developed a cough; followed soon by weakness of arms and legs, and pain in chest. It is difficult to assess his disabilities over the last two or three years, as he does not seek medical advice unless he is driven to it.

His blood examination is as follows:—R.B.C., 6,500,000. W.B.C., 7,250. Hb., 115%. Blood pressure, 118/55. W.R., is negative, and there is nothing abnormal about the urine. Physical examination shows an emphysematous chest, with rales and rhonchi so marked that it is difficult to hear the heart sounds. A well defined area of dullness over the upper part of the right lung posteriorly suggested that the venous obstruction of the head and arms might be due to aneurism or neoplasm. This was ruled out by the X-ray. The report stated in addition that there was enlargement of the left auricle.

You will remember that two years ago it was suggested and subsequently disproved that he had mitral stenosis. The same point is again raised. In support of this he has an enlarged liver but no ascites, and no oedemâ of the extremities. In spite of the difficulty of cardiac examination due to the emphysema and respiratory noises, it was definitely decided that though he had a faint mitral systolic murmur, he had no evidence of stenosis. If the emphysema accounts for the polycythæmia and the cyanosis, why does he not give a record of frequent and prolonged attacks of bronchitis? Why is there no clubbing of the fingers? It is impossible to believe that he could have had mitral stenosis since before 1930, with no hæmoptysis, and with ability to perform heavy tasks.

It is only of recent years that Ayerza's disease has been identified, and the cases so far recorded are not numerous. They all have cyanosis and polycythæmia, and also emphysema with a history of chronic bronchitis. Syphilis is rarely a factor. We have in this case radiological evidence of enlargement of the right ventricle, and a fibrosis of the lungs; but instead of the picture showing sclerosis and dilatation of the conus of the pulmonary artery, we have enlargement of the auricle. Possibly another roentagenogram taken obliquely might help. It was also suggested that the clinical diagnosis was Ayerza's Disease. This view is confirmed by the following report of an examination made on February 13th, 1933. "The prominence between the left ventricle and the aortia could be produced by marked enlargement of the right ventricle with a dilated pulmonary artery. It suggests pulmonary obstruction. There is a peri-bronchial infiltration extending into the lung fields."

There appears to be no specific treatment, and yet we feel that some assistance must be given. The absence of cardiac failure makes stimulants unnecessary. The same applies to oedema and diuretics. If this patient had a similar sclerosis of the systemic circulation, would we not try the value of potassium iodide? He was given twenty grains of this drug three times a day, and professes himself much improved.

—Case presented by E. S. Moorhead.

One of a series of advertisements prepared and published by PARKE, DAVIS & COMPANY in behalf of the medical profession. This "See Your Doctor" campaign is running in the *Saturday Evening Post* and other leading magazines.

THIS LITTLE GIRL HAS THREE PARENTS

YES, this little girl has three parents. The third parent is the family physician.

He was a part of the family even before she was. He has stood beside her since her tiny lungs let loose their first wail of protest against a new and frighteningly large world. He knows her physical history. If there are weaknesses he is aware of them and able to keep a watchful eye on them.

Through her babyhood an affectionate understanding has been growing up between them. When she's ill, this man who comes to help her is not a stranger, but a friend in whom she has complete trust. He knows her little whims and how to get around them. She knows him and is at ease with him. She's a lucky little girl—with this third parent to watch over her, to care for her, to help her through the years that lie ahead.

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A summary of the contents of some of the journals available for practitioners. Submitted by the Faculty of Medicine of the University of Manitoba. Compiled by T. E. Holland, B.Sc., M.D. (Man.), F.R.C.S. (Edin.).

BRITISH MEDICAL JOURNAL, February 4, 1933.

"Results of Lumbar Sympathectomy in Thrombo-Angiitis Obliterans."
by E. D. Telford, Prof. of Surgery, Manchester,
J. S. B. Stopford, Prof. of Anatomy, Manchester.

—An interesting article including sixteen case reports by their careful investigators.

BRITISH MEDICAL JOURNAL, February 11, 1933.

"The Medical Profession and Birth Control."
by James Young, President, Edinburgh Obstetrical Society.

—A lecture delivered by Dr. Young, covering the subject of birth control from its various aspects.

LANCET, February 25, 1933.

"Monocytic Leukæmia: Two Cases."
by John W. Orr, Late First Assistant Pathologist, St. Mary's Hospital, London.

—A detailed study of two cases with a discussion of the condition as an entity.

LANCET, February 18, 1933.

"The Prognosis and Treatment of Lobar Pneumonia."
by John A. Ryle, Physician to Guy's Hospital.

—This article includes a summary of the method and results of serum treatment.

LANCET, February 4, 1933.

"The Treatment of Burns and Scalds with Special Reference to the use of Tannic Acid."
(Hunterian Lecture) by Philip H. Mitchiner, Surgeon to St. Thomas's Hospital.

—The subject is ably dealt with by Mr. Mitchiner.

BRITISH JOURNAL OF SURGERY, January, 1933.

"The Relationship of the Structure of the Enlarged Prostate to the End-Results of Prostatectomy."
by E. W. Riches, Asst. Surgeon and Asst. Urologist, Middlesex Hospital, and E. G. Muir, Asst. Pathologist, Middlesex Hospital.

—The clinical features of the glandular, the fibrous and the calculous types of prostates are correlated with the pathological findings and the post-operative complications are discussed and compared in each of the types.

"Pre and Post-Operative Treatment of Gall Bladder Disease."
by Arthur F. Hurst, Senior Physician to Guy's Hospital.

—A short and concise account of treatment advised by Dr. Hurst.

"The Diagnosis and Treatment of Generalised Osteitis Fibrosa with Hyperparathyroidism."
by R. C. Elmslie, F. R. Fraser, T. P. Dunhill, R. M. Vick, C. F. Harris and J. A. Dauphinee, of the staff of St. Bartholomew's Hospital, London.

—A very extensive and complete study of this interesting condition with details of treatment and results. Three case histories are considered.

AN EPITAPH

"Here lies the man who saved his all
For days when the rain and snow should fall;
He knew no pleasure, shared no game
And died before the blizzard came."

—*Nova Scotia Medical Bulletin.*

Western Canada Medical History

by Ross Mitchell

GUY'S HOSPITAL AND CANADA

IT would be a fascinating subject to trace the influence of the great teachers and the great schools of Europe and England such as Paris, Edinburgh, Berlin, Vienna and London on students and visitors from the western hemisphere. It is our lighter task to show what one medical school in London has done for Canada and particularly to mention the links that bind Western Canada to the hospital in Southwark.

A word as to the founder of the hospital will not be out of place. Thomas Guy (1644-1724) was the son of a lighterman and coal dealer in Southwark. After serving an eight years' apprenticeship to a bookseller he began business on his own account and dealt largely in Bibles. At first he imported these from Holland but later he obtained from Oxford University the privilege of printing them. The sale of Bibles, rare good judgment in investment of his funds in Government securities, an extremely thrifty mode of life, and the fact that he sold out his stock in the South Sea Company in 1720 before the bubble burst, made him master of a fortune of half a million sterling. He was member of Parliament for Tamworth (Staffordshire) from 1685 to 1707. In the latter year he built three wards for St. Thomas's Hospital of which he was a director, and in 1721 he began the erection, at a cost of £18,793 16/-, of a hospital in the district of London in which he had been born. This hospital was designed to admit cases which could not be received at St. Thomas's Hospital and also incurable cases. In addition to other bequests he left at his death to the hospital which bore his name the sum of £220,000.

Guy's Hospital continued to grow and attract a brilliant group of teachers. In the middle of the 19th century it possessed among its professors of medicine a remarkable trio—Thomas Hodgkin, 1798-1866; Richard Bright, 1789-1858, and Thomas Addison, 1793-1860. Each through his powers of observation was able to describe the disease which bears his name. Addison, especially, was a brilliant teacher and introduced the practice of requiring student clerks to write systematic reports of the cases they were studying, thus laying the foundations of the English system of clinical teaching.

The brilliance of these teachers of medicine as well as of two other teachers, each almost equally eminent in his own department, John Hilton, the surgeon who wrote the classic, *Rest and Pain*, and Alfred Taylor, who wrote a textbook on *Medical Jurisprudence* what has passed through many editions and is still the authority in courts of law, attracted many students. One of these was Henry Septimus Beddome. He was born July, 1832, at Clapham Common, London, and graduated in May, 1852. After graduation he made his first trip from home in the Hudson's Bay ship making its annual voyage to York Factory. This trip fired in him the ambition to return to the new land and the following year he came out to the Red River settlement where he practised till 1859 when he married Frances Omand and went back to York Factory as surgeon for the Hudson's Bay Company. He returned to the Red River settlement in 1865 and practised from his home in St. Andrew's up till the time of his death, March 20th, 1881. He and his wife are buried in the cemetery of St. Andrew's Church on the Red. A personal communication from his daughter says "His life in St. Andrew's was not one of re-

muneration but just in trying to relieve the sick." His son, Henry O Beddome, of Winnipeg, possessed his father's diplomas which bear the signatures of Thomas Addison, John Hilton and Alfred Taylor. Dr. Beddome's certificate of membership from the Royal College of Surgeons, dated 1852, bears the address, *Hudson's Bay, North America.*

Another link of the Canadian West with Guy's Hospital is found in Dr. Curtis James Bird. He was the son of James Curtis Bird, Chief Factor of the Hudson's Bay Company and a Governor of the Red River District. His mother was a teacher in the Red River Academy for girls. He was born in 1837 at the family home, Marchmont House, Middlechurch, was educated in St. John's College and then crossed the Atlantic to study medicine at Guy's Hospital. He graduated in 1859 or 1860 and returned to the Red River Settlement in 1860. On the death of Dr. John Bunn in 1861 he was appointed coroner for the Assiniboia district. He took a prominent part in the troubles of 1869-70, was a member of the provisional convention and helped to frame the Bill of Rights. When Manitoba became a province he was elected member for St. Paul's and was made Speaker of the House. An unpopular ruling regarding the incorporation of the City of Winnipeg in 1873 lead to the incident which is referred to elsewhere. Dr. H. H. Chown says that he was the Beau Brummel of the city and he enjoyed a large practice. His office, drug store and dwelling were on the south-east corner of Main and Bannatyne Streets, where now stands the Bird Block. He died of pneumonia on June 3rd, 1876, while on a visit to England.

Still another link between Guy's Hospital and Canada is found in the Mack Training School for nurses at St. Catharines Hospital, Ontario. This was the first training school for nurses in Canada and was founded by Dr. Mack, who, in 1873, brought as superintendent, Miss Money, a Canadian who had been trained in the Franco-Prussian war under Countess Gasparin. With her he brought four nurses from Guy's Hospital who thus shared in the honor of establishing the first training school for nurses in Canada.

The presence in the small Red River settlement in the years 1865 to 1876 of two Guy's Hospital men must have affected profoundly the medical atmosphere. The spirit of Guy's brooded over the young province at its creation in 1870.

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Sixty Years Ago—March 13, 1873

It was moved by R. A. Davis, seconded by W. McIlroy, that a committee be appointed to represent to the Manitoba House the dissatisfaction felt as to its altering of the Winnipeg incorporation bill.—*Manitoba Free Press.*

A reward of $1,000 was offered for the apprehension of the persons who had tarred and feathered the Speaker of the House, Dr. Bird, one night in Kildonan.—*Manitoba Free Press.*

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Sixty Years Ago—March 14, 1873

Among professional men advertising in the *Free Press* classified columns were John F. Bain, J. M. Macdonell, Walker & Huggard and Sedley Blanchard, lawyers; and Drs. Lynch, Jackes, L. A. Pare, J. H. O'Donnell and L. M. A. Roy.—*Manitoba Free Press.*

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Thursday, February 14, 1833. The Medical Examinations in the University of Edinburgh are ordered to be conducted henceforth in the English instead of the Latin language.—*The Times* (London) of 1833.

News Items

— of —

Department of Health and Public Welfare

Diphtheria

THE clinical history of diphtheria culminates in the work of Bretonneau and Trousseau: since their time the line of enquiry has been the nature and distribution of the curative agent and the action of its toxin.

For the last fifty years we have been in possession of a means that will stay the ravages of the disease; it is twenty years since von Behring in Germany, and Park in New York opened the campaign that is calculated to make diphtheria a rare phenomenon.

In the memoirs of Bretonneau we witness the intense research that led to the recognition of diphtheria as a specific contagious disease in which the membrane spreads like a slowly encroaching fluid over the fauces and into the air passage. We marvel at the methods used to stay this spread and at the obstinate perseverance that finally established the value of tracheotomy as a means for relieving the suffocation of a closed larynx. Reading Trousseau's *Cliniques Medicales* we are brought into the actual presence of this master of racy narative; we are one of the crowd that throng round him in the ward and from his lips we hear the story of his long experience, are warned of the care and the patience required for any hope of success, of the disappointments that none the less will fall to our lot.

Pierre Fidèle Bretonneau, born in 1778, was the son of a provincial surgeon, of a family that could boast fifteen medical men in nine generations. At the Ecole de Santé he was the pupil of Corvisart and among his fellow students were Dupuytren, Bayle and Guersant. After some years as a general practitioner, he was invited to Tours as principal physician to the hospital in 1815. He had already witnessed two epidemics of typhoid fever or, as he named it, dothienenteritis, but without the opportunity of investigation after death; this he had at Tours in an outbreak that occurred in 1819, when he was able to establish the fallacy of the gastro-enteritis theory and to demonstrate the specific lesion in the Peyer's patches.

About the same time he had his first opportunity of studying an outbreak of what was then known as malignant angina or, to use Cullen's terminology, *Cynanche maligna*. In this he had the ready help of an assistant blessed with intrepid determination—Velpeau, the blacksmith's son, now well set on his road from penury to surgical eminence. It was Velpeau who assisted his master in a midnight raid on the graves of his colleagues' patients: it had been alleged that the condition of the throat described by Bretonneau was not to be found in the private practice of other medical men in the city, so to confute such statements Bretonneau and Velpeau turned resurrectionists and, it is said, scaled the cemetery wall under gun fire. It was Velpeau who disseminated Bretonneau's views in Paris, and who one day at an autopsy on a typhoid patient leaped into the arena to reveal before astonished eyes the lesions in the Peyer's patches. It was Velpeau who induced Bretonneau to communicate his researches on diphtherite to the Academy Royale de Medicine in 1821.

Of a different stamp to Velpeau was Bretonneau's other famous pupil, Armand Trousseau, "a youth of elegant address, but of ardent uncertain character," who was to become the most charming of bedside teachers, and the most eloquent and most generous of clinical lecturers. It was Trousseau who extended the master's work on diphtheria, and who popularized the operation of tracheotomy.

It required the combined efforts of Velpeau and Trousseau to induce Bretonneau to publish his memoirs on diphtheria; they collected historical data and offered all possible assistance; they called him down as a dawdler and a hair-splitter, till finally the work was published: *Des Inflammations Speciales du Tissu Muqueux, et en particulier de la Diphtherite.*

This treatis, devoid of system and replete with repetition, described by Trousseau as "the most inconceivable hotch-potch ever imagined by a writer," includes four memoirs. In the first, Bretonneau embraces the conditions previously known as scorbutic gangrene of the mouth, malignant angina and croup into one disease which he names diphthérite; in the second he inserts an historical resume of the disease, and discusses treatment; in the third and fourth he describes two outbreaks that had occurred subsequent to his Academy address.

Bretonneau's only other publication was a memoir addressed to his friends –Blanche and Guersant–in 1855, when he was already seventy-eight years old. In this he discusses the conclusions drawn from his long experience and close study of the disease: he expounds the arguments for contagion and specificity: he draws attention to the immunity gained by the physician through the repeated experience of minute doses. Prior to Pasteur he affirms, "I therefore repeat that a special germ, peculiar to each contagion, gives rise to every contagious disease;" he foresees the possibility of vaccination against diphtheria as against smallpox.

He resigned from the hospital in 1841 and spent the remainder of his long life in attending to his private practice, largely gratuitous, and in cultivating his beloved garden, a rendezvous for the elite of France.

But with his confrères at Tours he was never *persona grata*: we have already seen an instance in which he invited their displeasure; his arbitrary demeanour, his irregularity and unpunctuality were also not calculated to appease their jealousy. It is recorded how, on one occasion, he kept three of his colleagues waiting for upwards of an hour pending a consultation while he discussed the making of a certain dish with the cook in the kitchen.

Throughout their long intimacy Bretonneau, Trousseau and Velpeau exchanged accounts of interesting cases and points of view: this correspondence has been published in Paul Triaire's *Bretonneau et ses Correspondants* and forms, says Garrison, the most interesting collection of medical letters since Guy Patin.

At Bretonneau's funeral in 1862 Velpeau and Trousseau paid their last tribute to their old master in notable orations, and five years later both followed him into the Unknown.

To realize the contribution of Bretonneau and Trousseau to the struggle of man with the disease which they named diphtheria, we must survey, as they did, the history of the disease as given by those of former times. Though it is probable that certain case histories in the Hippocratic writings and in the Talmud refer to this condition, it first receives full consideration in a chapter on *Ulceration about the Tonsils*, written by Aretæus in the second century of our era. He writes: "Such ulcers as are broad, hollow, foul and

covered with a white livid or black concretion are pestilential; around the ulcer there is formed a great redness, inflammation and pain of the veins, as in carbuncle." He depicts the spread of the disease to the uvula, tongue and gums, into the neck and through the trachea to the thorax. In this case "it occasions death by suffocation within the space of a day." He attributes the disease to the swallowing of cold, rough, hot, arid or astrigent substances. Children suffered most. In vivid colours he paints the agonies of the restless patient, longing for drink and afraid to take it, hoarse of voice, with fœtid breath, struggling for air, unable to rest in one position for a moment, in turn lying, sitting, standing, till suddenly relieved by death. To Aretæus such an ulcer was known as the Egyptian or Syriac, from the supposed country of origin. Bretonneau tells us that the tradition dated back to a period nearer Homer than Hippocrates. Aretæus treated the ulcer with Egyptian salve: a mixture of verdigris and honey, and also by insufflation with alum and powdered gall nuts, a method which Trousseau followed with apparent success.

In the sixth century Aetius of Amida, physician to Justinian, also gave a full account, evidently that of one familiar with the condition.

Records are scant till the sixteenth century, when in 1583 occurred the first of a series of epidemics that ravaged Spain till 1666, having spread to Italy in 1628. In Spain the disease was known as garrotillo, after the stick used by the executioner in strangling the condemned; in Italy as male in canna. After this the disease seems to have died down again till during the second and third quarters of the eighteenth century great waves of "throat distemper" spread through the British colonies of North America, and also through England, Scotland, France and Italy. Many of the outbreaks were characterized by military eruptions and it seems probable that these were scarlatinal of the severe anginal type prevalent in the outbreak of 1910-1911 in Manitoba, although many of the leading observers, as Letherland, Fothergil and Huxham, considered them allied with the garrotillo of the previous century. As Creighton suggests, Cullen would depend upon the malignancy of the outbreak to determine whether it were scarlatinal anginosa or Cynanche maligna: in the former there would be one or two malignant cases in every hundred, while in the latter four-fifths of the cases would be malignant. The true differentiation did not come till Bretonneau's research at Tours; then he showed that the diphtheritic membrane is detachable and, at the beginning of the illness, limited to one small area, but tending to spread to the larynx, while in scarlet fever any membrane that is formed is not detachable, is widespread from the beginning and does not extend to the larynx, so that the stridulous suffocation, then so common in diphtheria, does not occur in scarlet fever; further, he showed there is no mutual protection by the one disease against the other.

But the most important departure from the old conception had been made by Francis Home of Edinburgh, in 1765, when he designated as a new observation the occurrence of cases of croup or, in Cullen's terminology, Cynanche trachealis, "This convulsion of the larynx as it begins so it continues so violently that unless the child be relieved in a few hours 'tis carried off within twenty-four hours or, at most, forty-eight hours. When they are seized they have a terrible snorting at the nose and squeaking in the throat without the least minute of free breathing, and that all of a sudden when perhaps the child was but a little time before healthful and well." In the fatal cases there was a membrane in the trachea, white, soft, thick and readily separated, sometimes extending into the bronchi, but the pharynx and fauces were not implicated at all, or only to a slight degree.

It is the identity of angina maligna with croup which Bretonneau was so anxious to establish, to revert, as he said, to the opinions expressed by Aretæus and others: the death by strangulation being due to involvement of the larynx by the extension of the membrane from the pharynx: indeed, Ghisi of Cremona, in 1747, had reported a case in which a child suffering from the disease in the midst of an epidemic of *male in canna* had thrown up a solid white lump which, on being unravelled, was found to be in shape and size a mold of the trachea and bronchial tubes.

It is noteworthy that in the fourth edition of his *Principles and Practice of Medicine*, published in 1857, Thomas (later Sir Thomas) Watson was familiar with the condition of membranous croup or Cynanche trachealis described by Home, but had only seen two or three cases of Bretonneau's diphtherite.

Indeed, since the end of the eighteenth century, the disease had been almost confined to France, where, however, there had been numerous outbreaks. Watson states that in 1855 and 1856 it was rife and deadly in Boulogne; thence it is said to have invaded England, and by 1860 diphtheria had entered on a new plane in its history with the assumption of pandemic proportions, which have since maintained.

The history of epidemics teaches that the evaluation of a procedure can not rest upon the comparison between two periods, but only upon that of one set of persons with another alike in environment of time, place, status, It emphasizes Sydenham's theory of epidemic constitutions (génie épidémique) how at one time outbreaks of diphtheria have been characterized by primary tracheal involvement, at another by extension from the fauces to the larynx or by involvement of the mouth, and again, by diphtheritic infection of the skin, as witnessed by Trousseau, or by the prevalence of the hæmorrhagic type.

In France, interest in the condition had been stimulated early in the century by a prize being offered by Napoleon for the best essay on the subject, but no original contribution seems to have been made, until Bretonneau's address to the Academy in 1821. This he based on his research made during an epidemic that prevailed at Tours from 1818 till 1820; the city having a population of 20,000 and the hospital a capacity of four hundred beds. His clinical observations were amplified by sixty autopsies made during this period. This epidemic was initiated, so it seemed, by an outbreak in a regiment of what was then considered to be scorbutic gangrene of the mouth, though Bretonneau quickly recognized that it had nothing to do with scurvy. In some the condition extended to the throat and led to fatal croup. At the same time, others in the regiment, and also persons in the vicinity suffered from primary inflammation of the throat, or malignant angina, and subsequent croup. Bretonneau, therefore, concluded that the three conditions—in the mouth, pharynx and larynx—were really the manifestations of the one disease. It is now usually held that the stomatitis was really of the ulceromembranous variety, as first suggested in 1859 by Bergeron, which is occasioned by the symbiosis of the organisms described by Vincent in 1896. It must, however, be recognized that Bretonneau had ample justification for his contention, which was supported not only by Trousseau, who speaks of having seen many cases distinct from the ulcerous type of Bergeron, but also by Behring as late as 1893.

In only one case of the first sixty he examined after death did Bretonneau find that the false membrane existed in the trachea without any exudations being found either upon the tonsils or upon any part of the pharynx;

while death seems to have been due in all these cases to the mechanical obstacle offered to respiration by the development of the false membrane in the trachea or bronchi.

It was left for Trousseau to emphasize the importance of the general toxemia and the consequent paralysis, but even so: "In diphtheria, as in malignant pustule, it is by making a direct attack upon the local affection that we stop the progress of the general disease and prevent the occurrence of ulterior symptoms."

Pursuing the practice of the day, which was dictated by the irritation and inflammation doctrine of Broussais, Bretonneau first tried general methods of treatment. He soon found venesection was more crippling than salutary; then for a time he used what we would consider heroic doses of calomel, for example: to a child of seven, four grains an hour for four hours, then two grains an hour till two drachms had been given by the mouth, as well as frequent inunctions with grey ointment—yet the child survived and with apparently little sign of mercurial poisoning of the gums. Blisters were also used for some years, but later abandoned, probably due to Trousseau's observation of the diphtheritic infection of the skin lesion thus caused. Various drugs were tried from time to time, and in his clinics Trousseau recommends the use of oil of cubebs and, in some instances, of emetics, especially copper sulphate.

Both Bretonneau and Trousseau laid great stress on the maintenance of the patient's strength with ample nourishment and used quinine and iron as tonics.

The value of the direct attack on the membrane with caustic had already been recognized. Bretonneau first used fuming hydrochloric acid and later silver nitrate, a treatment which he granted was barbarous and produced terror in the child. He says: "A solution of one ounce of the crystalized silver nitrate was completely employed in this horrible treatment, of which at least a third was absorbed by the child." Trousseau returned to the methods of Aretæus of insufflation with alum or with tannin; in severe cases, he used copper sulphate rather than silver nitrate; he recommended the actual cautery for diphtheria of the skin or vulva, but considered it too severe and too terrifying for use in the throat.

Tracheotomy had been practiced on various occasions ever since Aretæus, but the first successful issue in its use in diphtheria is attributed to Bretonneau in 1825. There is a record of its also having been performed by John Andree in London in 1782, but the evidence is not considered reliable.

Bretonneau's success did not come till after two unfortunate attempts: he attributed it to the use of a wide, curved, rigid tube of silver, instead of the gum elastic catheter he had previously employed: this improvement was suggested to his mind by the observation of two horses with tin tubes in their throats.

Toward the end of his career Trousseau could claim a record of over two hundred operations of tracheotomy for diphtheria, one-fourth of which had been successful.

It must be remembered that he was a pioneer in a procedure beset with difficulties, that at first it was only done when the child was in a moribund condition and that the majority were performed at the Children's Hospital—a "hotbed of formidable and varied contagion" and "upon children from a low social position, who had been previously subjected to the deplorable treatment of midwives, quacks and old women."

We have but to read these memoirs and clinics to realize the dread horrors and dangers from which the toilings of Behring, Roux, Ramon and others have delivered us. In his *Geschichte der Diphtherie* Behring bases recent advances on the pioneer work of Bretonneau.

The main practical value in Bretonneau's doctrine lay in the warning that from the insidious onset of a mild sore throat, the condition gradually spread till it caused death with all the agonies of suffocation; in the evidence that this condition could be transmitted from person to person by the fluid contagion ejected from the patient's throat; and in the suggestion that diphtheria could be prevented even as smallpox by specific vaccination.—N. R. R.

Memoirs on Diphtheria: Bretonneau, Trousseau, etc. New Sydenham Socy.
Trousseau's Clinical Medicine: Vol. 2. New Sydenham Society.
Creighton: History of Epidemics in Britain, Vol. 2.
Fielding Garrison: International Clinics, Series 26, Vol. 3.
J. D. Rolleston: Proc. Royal Society of Medicine: Sect. Hist. of Med. 1925.
Thos. Watson: The Principles and Practice of Physic. 4th Ed., Vol. 1, 1857.
Medical Research Council: Diphtheria 1923.

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COMMUNICABLE DISEASES REPORTED

Urban and Rural : February, 1933

Occurring in the Municipalities of:—

Chickenpox: TOTAL 166—Kildonan West 13, St. Boniface 11, St. Vital 9, St. James 6, Brenda 5, Birtle R. 4, Brandon 3, Emerson 3, Grandview 3, La Broquerie 3, Grandview Town 1, Napinka 1, Winnipeg 104. (Delayed reports for month of January: Unorganized 7, Assiniboia 6, McCreary 6, Strathclair 5, Louise 3, St. Boniface 3, Westbourne 3, Grandview R. 2, Grandview T. 1, Neepawa 1. TOTAL 37).

Mumps: TOTAL 129—Winnipeg 56, St. Boniface 39, St. Vital 26, Kildonan East 4, Brandon 3, Lakeview, 1. (Delayed reports for month of January: St. Boniface 4, Charleswood 1).

Whooping Cough: TOTAL 104—Winnipeg 98, Kildonan East 2, Kildonan West 1, Minitonas 1, St. James 1, Unorganized 1.

Scarlet Fever: TOTAL 62—Winnipeg 30, St. Vital 9, Fort Garry 5, Coldwell 3, Hanover 3, McDonald 2, Sifton 2, Unorganized 2, Hamiota 1, Morris Town 1, Plum Coulee 1, St. Boniface 1, Tache 1, Whitehead 1. (Delayed reports for month of January: St. Boniface 3, Fort Garry 1, Morris R. 1, Plum Coulee 1, Selkirk 1, Unorganized 1. TOTAL 8).

Tuberculosis: TOTAL 62 — Winnipeg 22, Treaty Indians 12, Unorganized 3, Ritchot 2, Grandview R. 2, St. Andrews 2, St. Boniface 2, Tache 2, Archie 1, Beausejour 1, Boissevain 1, Cypress North 1, De Salaberry 1, Gilbert Plains V. 1, Gimli 1, Hanover 1, Kildonan East 1, Portage City 1, Rossburn 1, St. Clements 1, St. Vital 1, Victoria Beach 1, Selkirk 1.

Typhoid Fever: TOTAL 18—Winnipeg 4, Boulton 3, Carman 3, St. Francois Xavier 3, Shellmouth 2, Cornwallis 1, Shell River 1, Winkler 1. (Delayed report from month of January: St. Andrews 1).

Influenza: TOTAL 10—Brandon 3, Winnipeg 3, Grandview T. 1, Grandview R. 1, St. James 1, St. Vital 1. (Delayed reports from month of January: Eriksdale 11, Grandview T. 1, Victoria 1. TOTAL 13).

Diphtheria: TOTAL 14—Winnipeg 10, Lawrence 2, Strathclair 1, Unorganized 1. (Delayed report from month of January: Swan River R. 1, St. Boniface 1. TOTAL 2).

Erysipelas: TOTAL 13—Brandon 8, Grandview T. 1, St. Boniface 2, St. Vital 1, Winnipeg 1.

Measles: TOTAL 3—Brandon 1, Melita 1, Silver Creek 1. (Delayed reports from month of January: Harrison 1, Mossey River 1).

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DEATHS FROM ALL CAUSES IN MANITOBA

For Month of December, 1933

URBAN—Cancer 27, Pneumonia (all forms) 23, Congenital 17, Influenza 16, Tuberculosis 11, Puerperal 2, Whooping Cough 2, all other causes 145, Stillbirths 9. TOTAL 252.

RURAL—Congenital 30, Cancer 25, Tuberculosis 25, Influenza 28, Pneumonia (all forms) 19, Typhoid Fever 3, Diphtheria 2, Cerebro Spinal Meningitis 1, Puerperal 1, Scarlet Fever 1, all other causes 157, Stillbirths 20. TOTAL 312.

INDIANS—Tuberculosis 11, Congenital 6, Influenza 1, Pneumonia (all forms) 1, Puerperal 1, Whooping Cough 1, all other causes 5, Stillbirths 3. TOTAL 29.

Grand Total - - 593

History of Medicine in Canada

by W. A. GARDNER

Mal de la Baie St. Paul

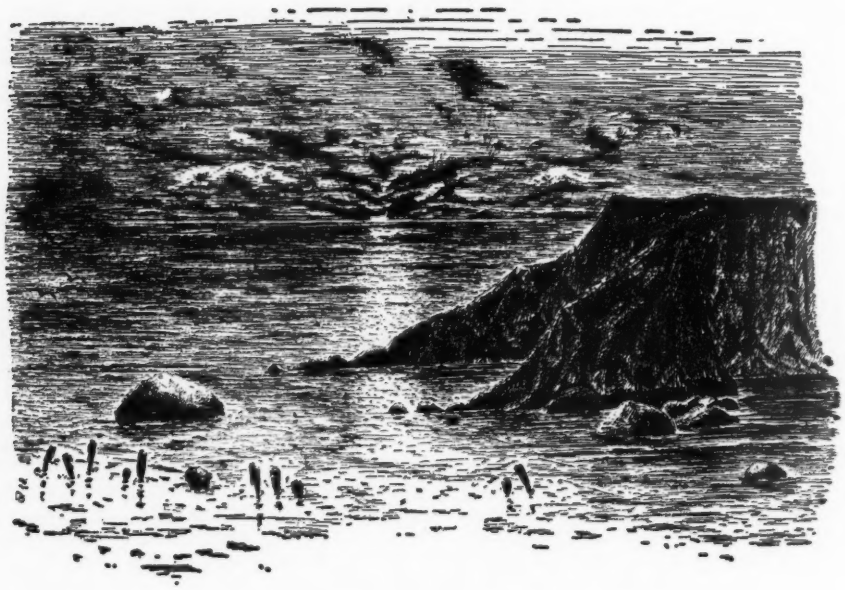
IT began at St. Paul's Bay below Quebec, said to have been brought by a Scotch sailor who wintered there before 1773. A detachment of Scotch soldiers were sent to the Bay and were credited with introducing the disease. The symptoms were the same as in the disease known in Scotland as Sibbens or Sivvans, and later identified as Syphilis. The Army have played a prominent part in the history of Lues or Pox which was communicated between the soldiers of the Emperor Charles V. and Francis I. and entered France under the name Neapolitan Disease. The English called it the French disease, and the French Canadians the Scotch or English disease. In Quebec it had many local names as it spread amongst the population of the Province then numbering 120,000 people; names such as Maladie des Éboulements at Baie St. Paul, Lustin Crue at Boucherville, La Maladie de Chicot at Sorel and Berthier. Common names were Vilain Mal, Mauvais Mal, and Gros Mal. In Montreal now venereal disease is called La Mauvaise Maladie.

It spread like an epidemic with astounding rapidity, no parish being exempt. The symptoms were thus described. "The first signs of this fatal disease are ulcers on the lips, the tongue, the interior of the mouth; to drink out of a glass, to smoke an infected man's pipe is enough to infect with this poison. The largest ulcers form in the mouth and on the sides of the throat. The glands of the gullet, arm pits and groin are inflamed and often become hard insensible tumours. Soon there are head and general pains. The third stage can be recognized by crusts on the skin, the bones of the nose rot as well as the palate. Lumps come on head, clavicles, legs and fingers. The hair falls out and human spectacles too shocking to behold were common as the result of the progressive state of the disease neglected."

"In 1783 the subject was taken up by the Legislative Council who represented to the Governor the anxiety and concern which the alarming progress of this disease had caused in the Province. They requested that a list might be obtained of those infected in the different parishes."

The medical men qualified to know had no hesitation in pronouncing the disease syphilis. It was readily cured by mercury which was given to children as calomel and to adults as sublimate and inunctions. Many through shame would not admit having the disease to the Clergy though withdrawal of absolution was threatened if found out.

Mercury was distributed to the people through the priests and many cases of stomatitis resulted from the too free use of this remedy. It is apparently true that the existence of the Canadians was threatened by the ravages of lues from 1773 to 1786, in which latter year six surgeons were sent out to give free treatment to all afflicted with this new disorder "in order to eradicate or at least mitigate this evil, with which whole families were infected."



At the Turn of the Tide

CLINICAL experience has shown that Antiphlogistine is a dependable and efficacious adjunct to the general treatment of the pneumonias.

By alleviating the pain, inducing diaphoresis, combating toxaemia, and affording rest and sleep, it will usually help to effect a favorable course at the turning of the tide.

Antiphlogistine retains its heat for more than 12 hours, it is simple to apply and necessitates but a minimum disturbance of the patient.

℞ ANTIPHLOGISTINE
for Pneumonia

The DENVER CHEMICAL Mfg. Co., 153 Lagauchetiere St., W., Montreal

MADE IN CANADA

"Cholera"

There was a world wide epidemic of Cholera starting in the East in 1831 spreading over Europe and reaching Canada with the immigrant ships in 1832. In that year 51,800 arrived from England and Ireland. Those sick with Cholera were sent to the Quarantine Hospital, but the contacts were allowed to continue their journey. Wherever the immigrants went they spread the disease. At Quebec Cholera raged from June to September with 2,208 deaths, and the city registered a new *Champs de Morts* the Cholera cemetery. Quebec had a population of 28,000.

The physician in charge of the military hospital wrote, "The circumstances are exceedingly distressing in which we have been placed by bursting out of this most terrible disease amongst us with a severity unequalled by anything which has occurred in Europe and such as threatens the whole population with destruction." In Montreal during the summer there were some 4,000 deaths from Cholera—one-seventh of the population. Montreal in 1832 numbered 27,297 people. By June 17th the troops at Kingston became infected. Some of the methods of treatment are interesting.

A staff-surgeon wrote: "I was sent for and bled two men largely and they recovered. Ten other men in the regiment were treated in the same way; the agonizing cramps yielded to the early and copious bleeding as to a charm and they also recovered. I began to vainly imagine that this treatment would be generally successful, but I was soon to be undeceived. Three men and a woman of the 66th were attacked the same night, they were bled like the others, and all died within twelve hours. Transfusions of saline fluid into the veins we used in twenty bad cases, but unsuccessfully in all, though the first effect was the apparent restoration of the powers of life; and in one remarkable case a poor emigrant from Yorkshire, life was protracted seven days by constant pumping."

In Kingston "Long funerals blocked all the way." "Nothing was seen in the streets but those melancholy processions." The country people avoided the town and there was no business done.

Perhaps we are having an epidemic now that is attacking our sympathetic nervous system and causing all this business depression.

After the epidemic there were many orphans left that were adopted by the French people so that for years many people with Irish names were encountered who could speak nothing but French. Bender describes the epidemic in his *History of Old and New Canada.* "In 1832 Quebec was visited by that dreadful disease known as Asiatic Cholera, the name of which alone sends a shudder through most hearts . . . Starting at the Eastern seaports its course westward was rapid, appalling and deadly. Not the leat stricken was the St. Lawrence valley, along which the graves of the victims could be counted by the thousands. Gloom, grief, and anguish pervaded nearly every home. The whole land lay in mourning, grim despair resting like a chilling pall over the stoutest hearts. In Quebec city, the mortality was something frightful, nearly 3,500 succumbing during the epidemic. Of the multitudes stricken, but a percentage survived and of those only the very shadows were left to startle their neighbors and call forth by their wasted forms and pallid faces the deepest sympathy of those who escaped. At all hours of the day hearses and open carts, often containing five and six coffins, piled one upon the other, could be seen driving slowly through the streets towards the 'Cholera Burying Ground.' All sighed for that remedy and protection which medical science was utterly unable to supply. Physicians did their utmost, unquestionably to stay the progress of the evil destroyer, to rescue the

people from the 'pestilence that walketh in darkness, and the destruction that wasteth at noonday,' but sanitary laws were not understood and medical experience was sadly inadequate to the difficult task."

"From calculation made at the time it was affirmed that a greater number of persons had been carried off by Cholera in Lower Canada with a population of half a million in three months, than in Great Britain with fifteen millions in six months." In 1834 Cholera invaded the sountry a second time and raged again as badly as in 1832. A committee on shipping companies reported "Common avarice and the desire for gain prevailing over every other consideration, has led many captains, owners and agents of worthless old vessels, more particularly in the seaport towns of Ireland, into a most horrible traffic in human life that should be immediately arrested by the urgent voice of humanity and the strong hand of power. In the endeavour to make a profitable voyage by the embarkation of the greatest number of passengers, no expedient for deception appears to them too shameful. Brigs of two hundred tons are advertised in large letters as vessels of five hundred tons, and ships of four hundred as eight hundred and a thousand tons.

The passengers are assured that it is only necessary to provide the price of a passage and six weeks' provisions. The departure of a vessel is sometimes delayed for weeks and the unfortunate emigrant out of food has to buy at a high price from the captain. Too often his means are limited and he can only procure for himself and family enough to prevent their dying of hunger. In that year, too, seventeen ships were wrecked, and seven hundred and thirty-one lives lost.

There was another epidemic of Cholera in 1854 with 700 deaths in Quebec, 1,300 in Montreal, and other hundreds in Ontario. Dr. James Bovell treated Cholera in Toronto with intravenous injections of milk. He injected 8-12-ozs. of freshly drawn milk into six patients, two recovered. In the same year Dr. Sutherland at McGill prepared a serum that also proved ineffective. "Dr. Rowland of Quebec, on returning from a visit to the Red River country, reported that the disease had spread far beyond the limits of civilization, where inhabitants were few, where the stage coach or wagon was the only means of transportation, he found the immigrants suffering from Cholera."

In 1831 the population of Montreal was	-	27,297
In 1856 the population of Montreal was	-	75,000

The people of Canada who survived the epidemics of different types have surely been well tested, and whatever the branches have become, the root and trunk were sound and hardy.

"With test and test he picks the best,
Then tests them once again.
He tests the body and the mind,
He rings them O'er and o'er,
And if they crack he throws them back,
And fashions them once more."

The Whitsun holidays arrived, and the old man in the railway carriage had been staring at the bottle in the hand of a convivial Scottish passenger.

"I am seventy years of age," he said, "and I have never tasted a drop of whiskey!"

"Dinna worry yersel'," returned the other, "you're no' gaun to start noo."—*Nova Scotia Medical Bulletin.*

Correspondence

To the Editor:

The Manitoba Association of Registered Nurses is desirous of acquainting the Medical Profession and the public with the fact that for quite a number of years hourly nursing has been available for any type of nursing in the home for any length of time. This service seemingly has been little used and is considered at this time probably a more suitable method of offering nursing care to the public. The fees for this type of nursing have been lately reduced and are now in readiness to meet public demand, the fee for the first hour being $1.25 and 75 cents for each succeeding hour.

Of late considerable criticism has been directed towards the Private Duty Nurse of Manitoba, the popular feeling being that they are the only group of people who have not reduced their fees. In fairness to the nurses it is felt that the following facts and comparisons should be placed before the public.

For some number of years the Private Duty Nurses' fee in Manitoba has been $5.00 for a twelve-hour day, and $6.00 for a twenty-four hour day. These fees, unlike those of other provinces, remained the same when times were considered very good and living was much higher.

In 1929 when Professor G. M. Weir of the University of B.C. made a survey of nursing conditions in Canada, it was discovered that the average Private Duty Nurse worked actually only 26 weeks of the year with a medium earning of $1,022.00 per annum—that when times were good and everyone, more or less, employed.

As conditions grew worse, the Private Duty Nurses employment dropped off, but her expenses did not decrease noticeably. Laundry—a large item to a nurse—did not come down, room and board slightly lower, car fare higher. In 1929 over 50% of the Private Duty Nurses reported that they had just "broke even" at the end of the year, only 46% were in a position to pay for insurance, 5% carried annuities amounting to $645.00. What of these nurses now? The average Private Duty Nurse to-day does well to average $30.00 to $35.00 a month; often her income is much below that, but her living expenses remain the same whether employed or not. Not always does she collect the money she has earned. Accounts stand and cannot be pressed for collection as other accounts can.

Two years ago it was decided that while the maximum fee remain the same the individual nurse when called on a case adjust her fee when necessary to meet the financial status of the patient. To what extent this has been done is known to only a few. Many a nurse has been without employment for three or four weeks then been called on a case for probably four or five days at reduced rates. What of her monthly expenses?

The nursing profession is vitally interested to-day in the high cost of sickness and recognizes the responsibility for the care of the sick, and that it should render service according to need.

Compare the average Private Duty Nurse, her unsteady employment, long hours, inability to carry annuities with the average elementary school teacher with her steady employment, less hazardous type of work, with two or three months' holiday each year, and enjoying the benefits of state supported super-annuation schemes.

(*Signed*) MANITOBA ASSN. OF REGISTERED NURSES.

The Way of the Healer

WATSON KIRKCONNELL

(Continued)

PART III.

"THE ODOR OF SANCTITY"

As an interlude of horror comes the monastic idealization of filth (St. Anthony's achievement, for instance, is historical) and its belief in the demoniac origin of disease.

PART IV.

"THE BLOOD-STREAM"

The scientific spirit begins to manifest itself again in the efforts of such men as Roger Bacon. At last the microscope reveals the secrets of the blood-stream, of cytology and bacteriology; and the spirit of the true physician shows itself capable of martyrdom (as in the pioneer work against malaria and yellow fever).

III.

THE ODOR OF SANCTITY

BUT as the good physician labored there
With his disciples, suddenly there came
A cassocked multitude with greasy hair
And slimy cheeks like corpse-rats. Fierce as flame
They seized the little band, and without shame
Carried them off to their monastic den——
A monstrous mountain cave of pious fame,
Cut in the flanks of Hinnom's flagrant glen
Where worms die not and fire consumes the waste of men.

Mephitic fetor issued from that cave——
An odor as of swill and sickly swine
And rancid carrion bones without a grave
And rotting fish and carcasses of kine,
A stench like phallic fungus and a fine
All penetrating stercoraceous steam,
A loathsome choke-damp—all these did combine
To set the prisoners puking, as at cream
Drawn from a long-dead cow by some infernal scheme.

But when they entered in, they only saw
The filth of human bodies at their worst.
Women were there whose fly-blown chests were raw,
With breasts hacked off; and men forever cursed
With mutilation; all, it seemed, immersed
In ritual fonts of dirt that stuck and stank.
And still the monks in putrefactive thirst
Clung to the scummy reservoirs and drank,
Urged to defilement by a gross-paunched Mountebank.

For, to this rout, the Abbot of Unreason,
Gilbert by name, extolled a life of dirt;
And gave example, in and out of season,
Dressed in a lousy cowl and livid shirt.
Huge as a tun he was, yet malapert
As some lewd boy, and full of paradox.
Whene'er he laughed, the mighty belt that girt
His bloated belly creaked. Strong as an ox,
He bellowed out his views on fevers, pains, and pox.

"The dirtiest body hides the holiest life.
A cleanly body means a hell-stained soul.
Sweet Athanasius, that prince of strife,
Was right to praise Saint Anthony's control
Of his proud flesh, in that throughout the whole
Of his last years he never washed his feet.
Others lick lepers' sores and thus console
The poor in heart; or find their peace complete
In grovelling in filth upon the reeking street.

"Ours is an age of faith, when hogs and hens
Sleep calmly by the hearth in every house.
Saint Francis bids us love earth's denizens
In fur and feathers—raven, dove, and mouse;
And shall we not include the flea and louse?
What nonsense to want aqueducts and sewers!
I'd take all sanitary sots and souse
Them in their wells: then bid them fill their ewers
With good beer from the best of convent brewers!

"If fever ask for drugs, the best receipt
Is pestled dung and spiders, mixed with milk.
Soft syrups made from herbs might be more sweet,
But pleasant remedies are made to bilk
Dolts, dullards, fools, and others of that ilk.
All should be freely bled from time to time,
Whether they dress in sackcloth or in silk,
Or else the blood grows thick and full of slime
In spite of every change of regimen or clime.

"The inspirer of disease is still the Devil,
Who works through witch or wizard, or direct
By demonized possession, prompting evil
Within the very veins his powers infect.
Who would not be exultant to detect
The guilty witch, and, killing her, work cures!
Who would not, as an exorcist, eject
The serpent from the soul! Such work allures
Devoted spirits while the universe endures.

"More things are wrought by prayer than this world dreams of!
Our orisons bring health from all the saints!
Their shrines drive out the fiends that this earth teems of,
And free a million lives from morbid taints!
Here is a glory stifling all complaints:
Lepers are cleansed, dumb speak, deaf hear, lame walk.
Shame on the weak in faith, who falls or faints!
The saints can stay all maladies that stalk."——
So ran the tyrannizing current of his talk.

Hippocrates cried out: "Behold there lives
One only evil, namely Ignorance!
I cannot think a Deity forgives
The muddy minds that fester in this trance."
But Gilbert grew more fierce of countenance,
And called down Heaven's wrath upon the curs
Who dared blaspheme the Faith: "I'll make you dance,"
He cried, "you reason-sucking scavengers!"
Then flung them into dungeon-pits like sepulchres.

IV.

THE BLOOD-STREAM

AFTER long days of dark, and evil smell,
One, Friar Bacon, cleanlier than the rest,
Took them in secret to an outer cell,
In whose stone floor a well was manifest.
Down through its subterranean depths, a nest
Of lambent lenses sank in wondrous wise,
So that, in light beyond, small things possessed
Incredible proportions, and the eyes
Ached at the unfamiliar increment of size.

"Some prisoners sank this shaft in other days,
Seeking escape, but Gilbert found them out
And burned them," said the Friar. "By what ways
They would have gone, has puzzled the devout,
Who think this of the Devil, past all doubt,
Yet vague in use. But I've a brazen head,
A magic toy that speaks and loves to flout
The brethren, and its tongue has often said
That herethrough lies a land where monkishness is dead.

"My vows prevent my passing. If you will,
Leap through this shining well to liberty!"——
With gratitude they stood upon the sill
Of that deep orifice, content to flee
By any hazard from the tenebræ
Of Gilbert's cave. And as they leapt, the lenses
Parted like mist to let them pass through free
To radiant sunlight, where their dazzled senses
Gazed on a world of wonders and wild differences.

For there a river ran, a scarlet pulse,
Through myriad oozy channels with a tide
That flooded marshlands, only to convulse
Its waves in canyons on the other side
And sweep full circle. On the stream did glide
Masses of clotted weed and driftwood waste,
And millions of red coracles, inside
Whose rounded gunwales stores of food were placed:
All floated down the current with unceasing haste.

Amid the marsh a mighty city stood,
Fed by the freight of this untiring fleet.
Grey ramparts reared their height above the mud
Through which the crimson channels throbbed and beat;
Here grey-haired sages mused on every street,
But took no notice of the distant skies
Where high fantastic storm-clouds formed complete
Shapes of mosquitoes, ship-rats, fleas, and flies,
Vast and repellent in their thunder-headed guise.

The storm broke far away; but from the womb
Of those dark vapors, living pests descended——
Billions of black-toothed otters, that brought doom
To all they met, and bred as they contended,
Until their teeming multitudes transcended
The river swells by which they swam apace.
But lo, they found the city-wharfs defended
By great white monsters, ravenous to embrace
And swallow down the whole abominable race.

Larger than blue whale or diplodocus,
They wallowed in red waves and gulped their foes;
But these spat out black phlegm so venomous
That mists of strangling poison quickly rose
And drifted through the city, where they froze
The dreaming citizens to icy pain;
Yet still they knew not that they must oppose
An all-consuming army or be slain,
Such was the inattentive blindness of the brain.

Hippocrates caught fire at that sight:
"Come, let us rouse the town, for if we fail,
These friendly monsters will be put to flight
And all those hellish legions will prevail!"——
Into the streets he rushel with frantic hail:
"Death! Death! Come, line the ramparts, or you die!
Bring fire and sword! Bring pitchfork, ax, and flail!
The battalions of Beelzebub are nigh!"
And all the city startled at his clarion cry.

Beyond the battlements the fight grew warm;
Over the flagging monsters surged the foe.
But now the city rose to meet that storm
In serried ranks through which no power might go.
With torch and glaive in hand, they wrought stern woe
On those fierce swarms and drove them from the wall;
But in the very hour of overthrow
They saw the great Physician reel and fall,
Dragged down to sudden martyrdom before them all.

Scales fell from off their eyes at that disaster:
They knew again the old familiar earth,
And mourned beside the death-bed of a Master
Who had died to give men life instead of dearth,
Transforming filth and pain to light and mirth
By slaying sightless legions of disease.
Above his body there, they swore his worth
Should never die. Men wept his exequies:
"Here lies a Saviour. Bare thy head to such as these."

Current Medical Events

The Group Luncheon of the Winnipeg General Hospital was held on Thursday, March 2nd. The programme was as follows:—

1. Communication.
2. Tubo-Ovarian Cyst (Tbc), with Secondary Infection.....Dr. D. S. MacKay
3. Axillary Thrombosis.....Dr. M. S. Hollenberg
4. Case of Sudden Death.....Dr. William Boyd
5. Hospital Insurance Plans.....Dr. G. F. Stephens

* * *

Robert S. Ramsay, Guild Optician, who is now located at 333 Donald St., Winnipeg, announces that on or after April 15th, 1933, his business will be removed to more desirable and convenient quarters at 283 Donald Street, Metropolitan Theatre Building.

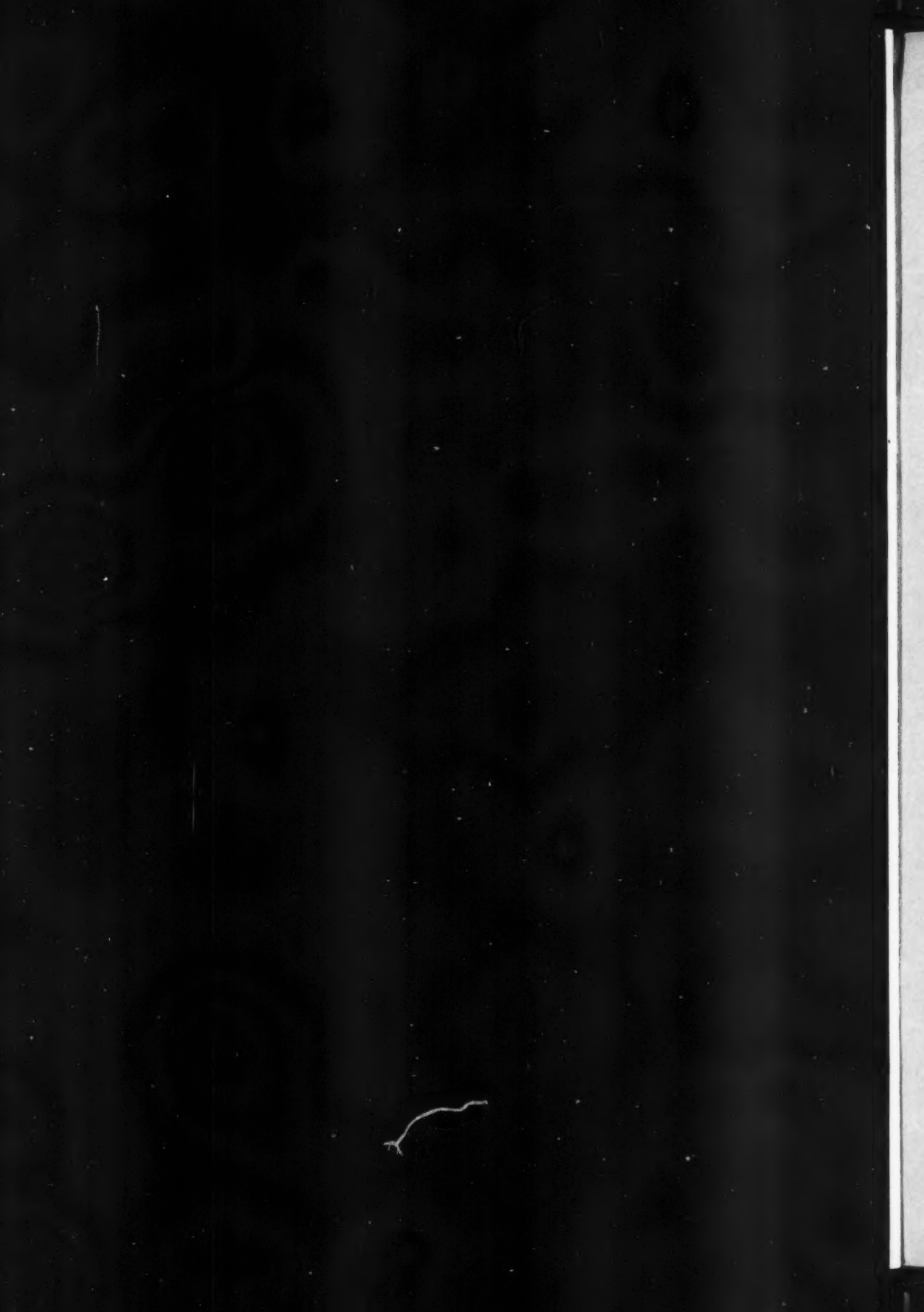
* * *

We have received inquiries for the following back numbers of the *Bulletin*:—2, 3, 4, 14, 17, 18, 20, 23, 29, 30, 32, 40, 42, 56.

Would any member having these copies forward same to the Editorial Office?

OBITUARY

DR. ROBERT P. CROOKSHANK, a pioneer of Rapid City, died at his residence in Brandon on February 2nd. He was born at St. John, New Brunswick, in 1851, and graduated in 1878 from Columbia University. His post graduate work was done at Guy's Hospital, London. Returning to Canada he became medical superintendent of the mental hospital at St. John, and assistant superintendent of the General Hospital in the same city. In 1884 he came West and settled at Rapid City. It is stated that he is the fortieth on the roll of the College of Physicians and Surgeons of Manitoba. He was a 32nd degree Mason and Past Master of Corinthian Lodge, Rapid City, on which he wrote a history. He is survived by his wife, two sons and a daughter, residing in Brandon.



Clinical Meetings

At Brandon General Hospital—
2nd Wednesday at 12.30 p.m.

At Brandon Hospital for Mental Diseases—
Last Thursday. Supper at 6.30 p.m.
Clinical Session at 7.30 p.m.

At Children's Hospital—
1st Wednesday.
Luncheon at 12.30 noon.
Ward Rounds 11.30 a.m. each Thursday.

At Grace Hospital—
3rd Tuesday.
Luncheon at 12.30 p.m.
Discussion of Obstetrical Cases will form a large part of the clinical hour.

At Misericordia Hospital—
2nd Tuesday at 12.30 p.m.

At St. Boniface Hospital—
2nd and 4th Thursdays.
Luncheon at 12.30. Meeting at 1.00 p.m.
Ward Rounds 11.00 a.m. each Tuesday.

At St. Joseph's Hospital—
4th Tuesday.
Luncheon at 12.30. Clinical Session 1.00 to 2.00 p.m.

At Victoria Hospital—
4th Friday.
Luncheon at 12.00. Meeting at 1.00 p.m.

At Winnipeg General Hospital—
1st and 3rd Thursdays.
Luncheon at 12.30. Clinical Session 1.00 to 2.00 p.m.
Ward Rounds 10.00 a.m. each Thursday.
Pathological Conference at Medical College at 9.00 a.m. Saturday during college term.

Winnipeg Medical Society—
3rd Friday, Medical College, at 8.15 p.m.
Session: September to May.

Eye, Ear, Nose and Throat Section—
1st Monday at 8.15 p.m., at 101 Medical Arts Building.

How Much Sun Does the Infant Really Get ? ◆

Not very much: (1) When the baby is bundled to protect against weather or (2) when shaded to protect against glare or (3) when the sun does not shine for days at a time. Mead's 10 D Cod Liver Oil with Viosterol offers protection against rickets 365¼ days in the year, in measurable potency and in controllable dosage. *Use the sun, too.*

Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons